CONTACT Co.
New Medical Technologies

ISO 13485

CE 1014

SURGICAL DISPLAYS

1 MP ECONT-0501.1

19″ color LCD Monitor

2 MP ECONT-0501.2 LED

24″ HD LCD Monitor

12 BIT 12-bit LUT grayscale

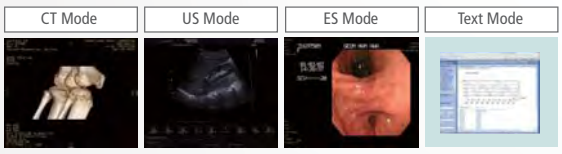
1MP & 2MP monitors geared with the 12-bit gray-scaling controller board ensures accurate reproduction of the surgical video images.

LUMI BLT Brightness Leveling Technology (BLT)

Brightness Leveling Technology(BLT) is a luminance auto-sensing technology, which, installed at the backside of LCD module, maintains the brightness at the previously calibrated maximum luminance level (L'max), consistently providing JND (Just Noticeable Difference) Level compliant image quality at each luminance steps and eventually reducing backlight warm-up time and extending lifetime of the lamps.

CAL SHIFT One-touch Calibration Switching

For an easy access to various imaging modalities, one-touch calibration switching mode is desirably incorporated.



DESIGN Ergonomic Design

The tilt, swivel, pivot and height adjustable stand offers ideal viewing position and comforts. VESA standard offers various mounting options as well.

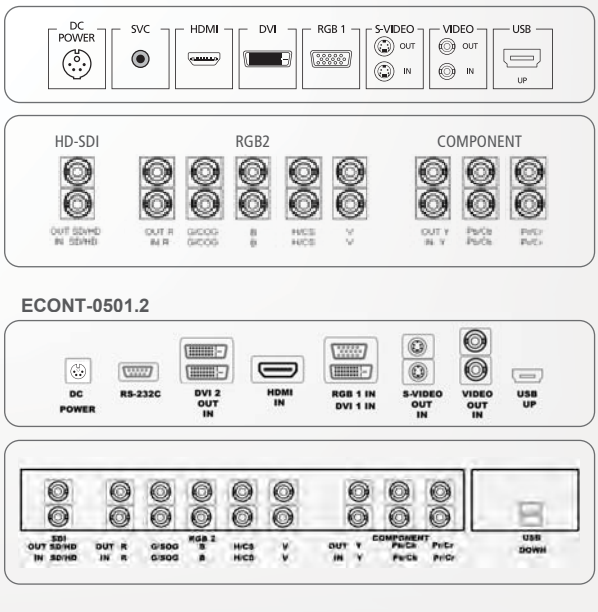
PbP PiP PbP / PiP

PbP & PiP function allows users to display two different images from two different sources (Digital/ Analog), which can be required when surgery and flexible endoscope are performed at once, or when endoscopic procedure is performed with ultrasound imaging or else.

PbP PiP

MULTI SIGNAL Interface Configuration

ECONT-0501.1



ECONT-0501.2

2 MP 24″ color LCD Monitor
ECONT-0501.2

1 MP 19″ color LCD Monitor
ECONT-0501.1

LCD	Technology	24-inch TFT Color IPS mode [LG]	19″ Color IPS mode [LG]
	Backlight	CCFL	CCFL
	Display Area	518.4(H)mm x 324(V)mm	376.32(H) x 301.06(V)mm
	Pixel Pitch	0.270(H)mm x 0.270(V)mm	0.294(H) x 0.294(V)mm
	Contrast Ratio	1000 : 1 (Typ.)	800 : 1 (Typ.)
	Luminance (Max)	400 (cd/㎡)	270 (cd/㎡)
	Viewing Angle(H/ V)	178(H) / 178(V)	178(H) / 178(V)
	Response Time	6ms (Gray to Gray)	25ms (Tr +Tf) (Typ.)
Performance	Resolution	1920(H) x 1200(V) pixels	1280(H) x 1024(V) pixels
	Display Colors	1.07 Billion	16.7 Million
Interfaces	Input Terminals	HDMI, DVI, RGB, HD-SDI,Component, S-Video, BNC	HDMI, DVI, RGB, HD-SDI,Component, S-Video, BNC
	Output	DVI x 2, RGB, HD-SDI, Component, Video	DVI, RGB, HD-SDI, Component, Video
	USB Ports	USB2.0 upstream x 1 / downstream x 2	USB2.0 upstream x1 / downstream x 2
Power	Input	DC 24V 6.25A Max.	DC 12V 7A Max.
	Consumption	98W Max.	43W Max.
Features	Calibration mode shift	N/A	4-Phased mode shift - CT, US, ES, Text
	DICOM mode shift	1.8, 2.0. 2.2(default), 2.4. 2.6, 2.8	1.8, 2.0. 2.2(default), 2.4. 2.6, 2.8
	Touch Screen	Optional	Optional
Physical	Stand	Tilt, Lift, Swivel, Pivot	Tilt, Lift, Swivel, Pivot
	Cabinet Colors	White	White
	Dimensions(H x V x W)	With stand: 390(H) x 510(V) x 240(W) Without stand: 570(H) x 380(V) x 110(W)	With stand: 449(H) x 367(V) x 220(W) Without stand: 449(H) x 347(V) x 80.5(W)
	Weight	With Stand: 9.5Kgs/ w/o Stand: 6.5Kgs	With Stand: 7.5Kgs/ w/o Stand: 5.5Kgs
	Mount	100mm x 100mm VESA standard	100mm x 100mm VESA standard
Environment	Temperature	Operation: 0~40˚C, Storage: 0~40˚C	Operation: 0~40˚C, Storage: 0~40˚C
	Humidity	Operation: 35~75%, Storage: 35~75%	Operation: 35~75%, Storage: 35~75%
Certification		MDD(KC, CE, FCC, VCCI, UL), CB	MDD(KC, CE, FCC, VCCI, UL)
Accessories		AC adapter, Power cord, DVI cable, USB cable, User Manual, Warranty Certificate, Screen Cleaner	AC adapter, Power cord, DVI cable, USB cable, User Manual, Warranty Certificate, Screen Cleaner

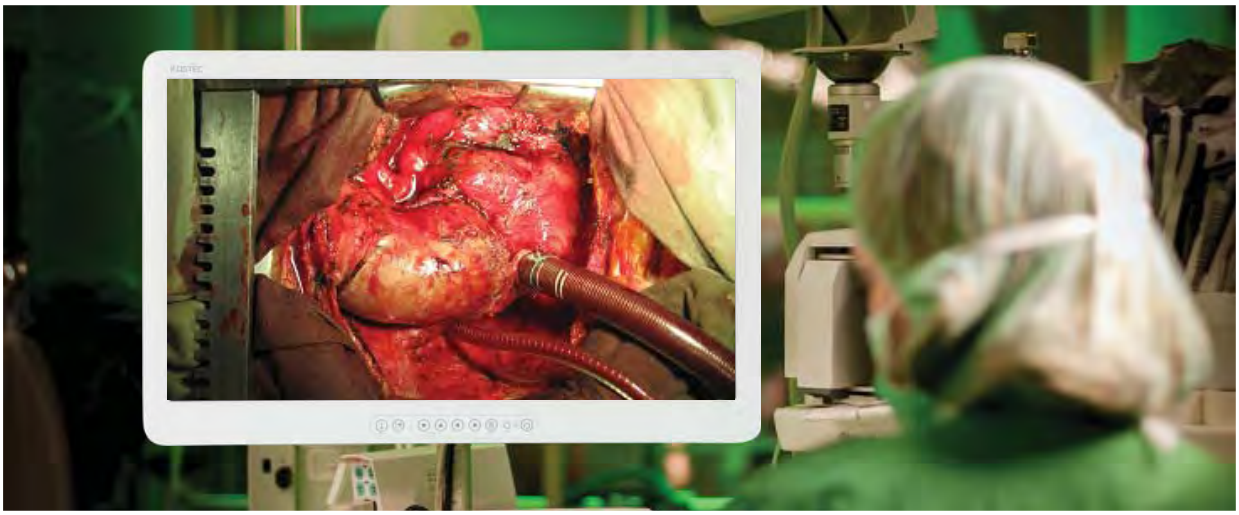
2 MP

ECONT-0501.3

Full HD 26-inch Surgical LCD Monitor

LED · DeBACT · OPTICAL BONDING

Highest-end Solution with optical bonding and fiber optic connectivity



1920x1080 Full HD super bright surgical display

ECONT-0501.3 is the latest and highest-end surgical imaging display featured by super bright image quality and the imaging performance greatly improved by the combination of the high technologies such as optical bonding, 14bit-based Image Quality Enhancement Technology and the wide connectivity including 3G-SDI and single-fiber interface.
Above all, designed with the anti-bacterial Ionizer "DeBACT" inside, ECONT-0501.3 is the world's first surgical display solution realizing "value more than display" in OR environments. Antibacterial Ionizer DeBACT-inside monitor helps to keep not only the monitor itself but also user's environment disinfected and antibacterial.

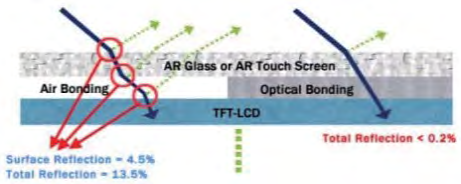
- Full HD 1920x1080 resolution
- Environmentally-friendly LED backlight
- 14-bit video image processing
- Wide connectivity including 3G-SDI and single-fiber interface
- Multi-modality input system
- Anti-bacterial Ionizer "DeBACT" inside
- 16:9 Aspect Ratio

Optical Bonding (for ECONT-0501.3 only)

OPTICAL BONDING

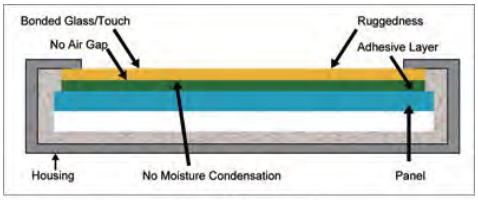
See Brighter and Sharper

Anti-reflective optical bonding technology is a solution to enhance clarity and readability of the average LCD displays, providing the highest image quality for the medical professionals. Reflection rate dramatically drops from 13.5% to 0.2%.



Advantages

- **Protection:** The cover glass serves as a protection of the LCD.
- **Clarity & Readability:** Optical bonding eliminates the internal reflection between the cover glass and the LCD, increasing display contrast and readability as a result. Enhanced contrast enables displays to look brighter and sharper even without increasing backlight brightness.
- **Dust & Moisture:** Filling the gap between the cover glass and LCD keeps out dust and moisture.
- **Shake & Shock:** Optical bonding is also effective in improving resistance to damage by shake and shock.



Optical Bonding

2 MP ECONT-0501.4

Full HD 27-inch Surgical LCD Monitor

LED DeBACT

Bigger & More Vividly

ECONT-0501.4 is a true 16:9 aspect Full HD surgical display featuring 14-bit-based high-quality surgical imaging performance improved by the Image Quality Enhancement Technology and wide connectivity including 3G-SDI and single-fiber interface.
Designed with the anti-bacterial Ionizer "DeBACT" inside, ECONT-0501.4 helps to keep not only the monitor itself but also user's environment disinfected and antibacterial.

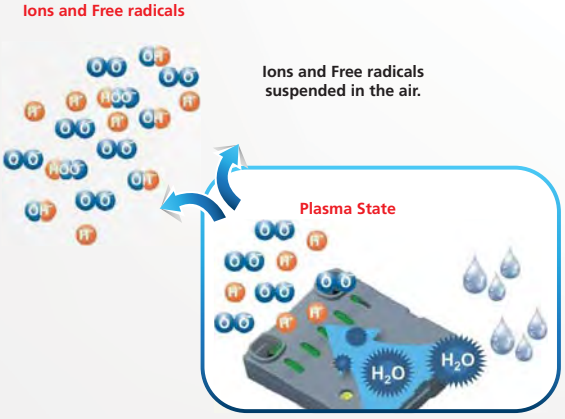
- Full HD 1920x1080 resolution
- Environmentally-friendly LED backlight
- 14-bit video image processing
- Wide connectivity including 3G-SDI and single-fiber interface
- Multi-modality input system
- Anti-bacterial Ionizer "DeBACT" inside
- 16:9 Aspect Ratio

16:9 WIDE View More, View Wider

16:9 aspect widescreen provides horizontally much wider screen view that delivers much more information than the conventional 4:3 or 5:4 aspect square screen, improving work efficiency of physicians and radiologists.

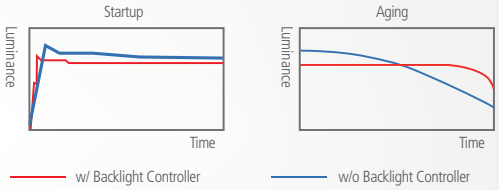
DeBACT Antibacterial Ionizer-inside Monitor

We think environment and healthcare beyond display itself. Antibacterial Ionizer DeBACT-inside monitor helps to keep not only the monitor itself but also user environment disinfected and antibacterial



LUMI BLT Brightness Leveling Technology (BLT)

Brightness Leveling Technology(BLT) is a luminance auto-sensing technology, which, installed at the backside of LCD module, maintains the brightness at the previously calibrated maximum luminance level (L'max), consistently providing JND (Just Noticeable Difference) Level compliant image quality at each luminance steps and eventually reducing backlight warm-up time and extending lifetime of the lamps.



2 MP ECONT-0501.4H

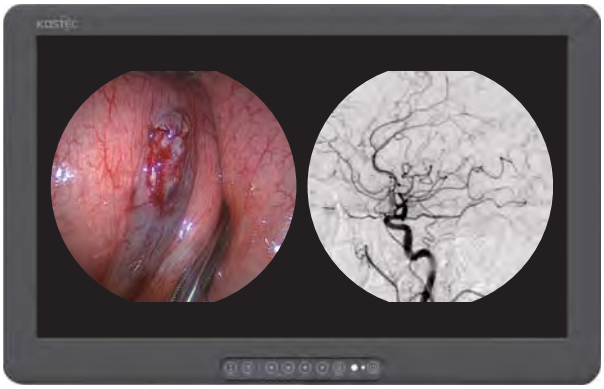
27-inch 4megapixel QHD color LCD Monitor

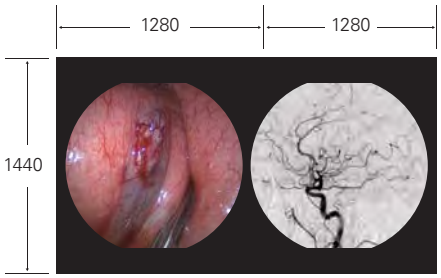
LED DeBACT

2560x1440 QHD Surgical Imaging Solution

ECONT-0501.4H is a unique 4megapixel surgical imaging solution with a 2560x1440 QHD resolution designed for multiple imaging applications and fusional performance through the high resolution and the large screen. In particular, through the dual-modality input mechanism, it is ideal for displaying dual images seamlessly picture-by-picture, improving the work efficiency of the users such as physicians and radiologists and providing alternative ideas for the OR, RIS and PACS integrators.

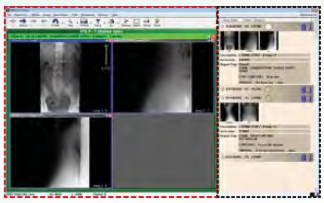
- Quad HD 2560x1440 resolution
- Environmentally-friendly LED backlight
- 14bit video image processing
- Wide connectivity including 3G-SDI and single-fiber interface
- Multi-modality input system
- Anti-bacterial Ionizer "DeBACT" inside
- 16:9 Aspect Ratio





MULTI TASK Multi-tasking Service

The 2560 x 1440 QHD resolution enables multi-format or multi-window functions applicable to multi-tasking service for work efficiency and effectiveness.

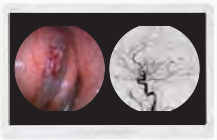


14 BIT 14-bit LUT grayscale

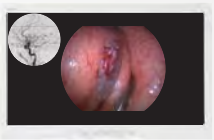
Based on the high-technology 14-bit Look-up Table(LUT) Kostec achieved 16,384 shades of grayscale, which is ideal for human eye's recognition at the level of Just Noticeable Difference (JND), enabling accurate image display.

PbP PiP PbP / PiP

PbP & PiP function allows users to display two different images from two different sources (Digital/ Analog), which can be required when surgery and flexible endoscope are performed at once, or when endoscopic procedure is performed with ultrasound imaging or else.



PbP



PiP

User's On-Screen Controls

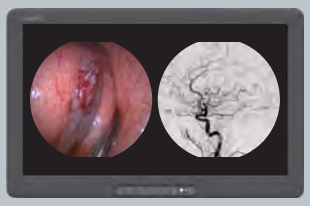
- Primary / Secondary Input Selection
- Brightness / Contrast / Hue / Saturation / Gamma / Sharpness / RGB Gain
- MMI Window Size / Swap
- Horizontal / Vertical Position
- Phase / Frequency / DPMS
- Automatic Input Source Selection
- Scaling / Overscan
- Five User Setting Memmory

Specifications

Surgical Displays

2 MP 26″ color LCD Monitor
ECONT-0501.3

2 MP 27″ color LCD Monitor
ECONT-0501.4



4 MP 27″ QHD color LCD Monitor
ECONT-0501.4H

LCD	Technology	26" TFT Color LCD IPS mode	27" TFT Color LCD IPS mode	27" TFT Color LCD IPS mode
	Backlight Type	LED	LED	LED
	Display Area	576.0(H) x 324.0(V) [mm]	597.888(H) x 336.312(V) [mm]	596.74(H) x 335.66(V) [mm]
	Aspect ratio	16:9	16:9	16:9
	Number of Pixels	1920 (H) x 1080 (V)	1920 (H) x 1080 (V)	2560 (H) x 1440 (V)
	Pixel Pitch	0.300(H) x 0.300(V) [mm]	0.3114(H) x 0.3114(V) [mm]	0.2331(H) x 0.2331(V) [mm]
	Displayable Colors	1.07 Billion	16.7M	1.07 Billion
	Brightness (Typical)	450 cd/㎡	250 cd/㎡	350 cd/㎡
	Contrast Ratio (Typical)	1,400 : 1	1,000 : 1	1,000 : 1
	Display Mode	IPS	IPS	IPS
	Response Time (Typical)	8ms (Gray to Gray)	8ms (Gray to Gray)	6ms (Gray to Gray)
	Viewing Angle(H/V)	178(H) / 178(V)	178(H) / 178(V)	178(H) / 178(V)
Power	Power Supply	DC24V, 6.25A(MAX)	DC24V, 6.25A(MAX)	DC24V, 6.25A(MAX)
	Consumption	TBD	TBD	TBD
Features	Optical Bonding	YES	N/A	N/A
	On Screen Controls	· Primary / Secondary Input Selection · Brightness / Contrast / Hue / Saturation / Gamma / Sharpness / RGB Gain · MMI Window Size / Swap · Horizontal / Vertical Position · Phase / Frequency / DPMS · Automatic Input Source Selection · Scaling / Overscan · Five User Setting Memory	· Primary / Secondary Input Selection · Brightness / Contrast / Hue / Saturation / Gamma / Sharpness / RGB Gain · MMI Window Size / Swap · Horizontal / Vertical Position · Phase / Frequency / DPMS · Automatic Input Source Selection · Scaling / Overscan · Five User Setting Memory	· Primary / Secondary Input Selection · Brightness / Contrast / Hue / Saturation / Gamma / Sharpness / RGB Gain · MMI Window Size / Swap · Horizontal / Vertical Position · Phase / Frequency / DPMS · Automatic Input Source Selection · Scaling / Overscan · Five User Setting Memory
	Ion Sterilizing Function	DeBACT Inside - self-sterilizing & Room-sterilizing Effects	DeBACT Inside - self-sterilizing & Room-sterilizing Effects	DeBACT Inside - self-sterilizing & Room-sterilizing Effects
Physical	Operational Temperature	0 ~ 50˚C	0 ~ 50˚C	0 ~ 50˚C
	Storage Temperature	-20 ~ 60˚C	-20 ~ 60˚C	-20 ~ 60˚C
	Operational Humidity	Ta = 40˚C, 85% RH MAX	Ta = 40˚C, 85% RH MAX	Ta = 40˚C, 85% RH MAX
	Storage Humidity	85% RH , Ta = 40˚C0 ~	85% RH , Ta = 40˚C0 ~	85% RH , Ta = 40˚C0 ~
	Operational Altitude	16,400 feet(5,000m)	16,400 feet(5,000m)	16,400 feet(5,000m)
	Storage(shipment) Altitude	0 ~ 40,000 feet(12,192m)	0 ~ 40,000 feet(12,192m)	0 ~ 40,000 feet(12,192m)
Environment	Stand	Optional	Optional	Optional
	Cabinet Color	White	White	White / Black
	Dimension	660mm(H) x 421mm(V) x 86mm(W)	660mm(H) x 421mm(V) x 86mm(W)	660mm(H) x 421mm(V) x 86mm(W)
	Weight	TBD	TBD	TBD
	Mount	100mm x 100mm VESA standard	100mm x 100mm VESA standard	100mm x 100mm VESA standard

Connectivity Information

[common for ECONT-0501.3, ECONT-0501.4x]

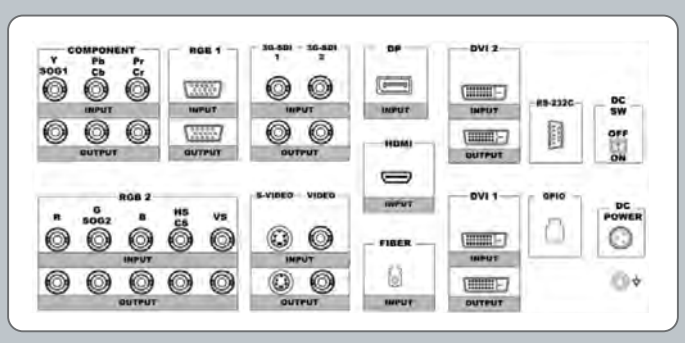
Input/Output Connectivity

Signals	Port Type	Input	Output
DisplayPort	DP Jack x 1	DisplayPort 1.2 MAX: 1920 x 1080 / 60 Hz	
FIBER	LC Jack x 1 (Option)	Single Mode Fiber MAX: 1920 x 1080 / 60 Hz	
HDMI	HDMI Jack x 1 (Type A)	Digital RGB: TMDS MAX: 1920 x 1080 / 60 Hz	
DVI Input	DVI Jack x 2 (Type D)	Digital RGB : TMDS MAX : 1920 x 1080 / 60 Hz	Digital RGB: TMDS MAX: 1920 x 1080 / 60 Hz
RGB / SOG	D-Sub Jack x 1 BNC Jack x 1	Analog RGB : 0.7V[p-p](75Ω), H/CS/V : TTL (2.2 kΩ), SOG : 1V[p-p](75Ω), MAX : 1920 x 1080 / 60 Hz	Analog RGB: 0.7V[p-p](75Ω), H/CS/V: TTL (2.2 kΩ), SOG: 1V[p-p](75Ω), MAX: 1920 x 1080 / 60 Hz
SDI	BNC Jack x 2	Serial Input Common Mode: 2.2V[p-p](75Ω) MAX : 1920 x 1080 / 60 Hz (3G-SDI)	Serial Output Common Mode: 2.2V[p-p](75Ω) MAX: 1920 x 1080 / 60 Hz (3G-SDI)
Component / SOG	BNC Jack x 1	Y(SOG):1V[p-p](75Ω), Pb/Cb:0.7V[p-p](75Ω) , Pr/Cr:0.7V[p-p](75Ω) 480i, 576i, 480p, 576p, 720p, 1080i, 1080p	Y(SOG):1V[p-p](75Ω), Pb/Cb:0.7V[p-p](75Ω), Pr/Cr:0.7V[p-p](75Ω) 480i, 576i, 480, 576p, 720p, 1080i, 1080p
S-Video	Mini DIN Jack x 1 (4 pin)	Y: 1V[p-p] (75Ω), C: 0.286V[p-p](75Ω) [NTSC] Y: 1V[p-p] (75Ω), C: 0.300V[p-p] (75Ω) [PAL / SECAM]	Y: 1V[p-p] (75Ω), C: 0.286V[p-p] (75Ω) [NTSC] Y: 1V[p-p] (75Ω), C: 0.300V[p-p] (75Ω) [PAL / SECAM]
Video Input	BNC Jack x 1	1V[p-p] (75Ω) [NTSC / PAL / SECAM]	1V[p-p] (75Ω) [NTSC / PAL / SECAM]
GPIO	RJH-4 Jack x 1	General Purpose Input and Output(GPIO) : TTL	

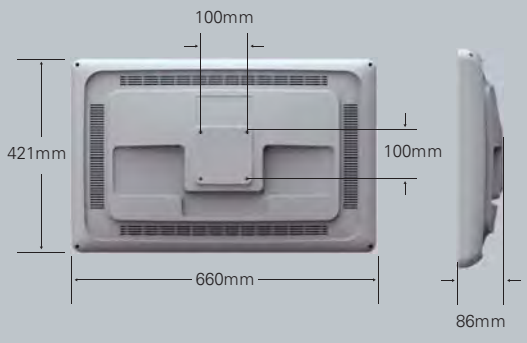
Dual-modality Input Matrix

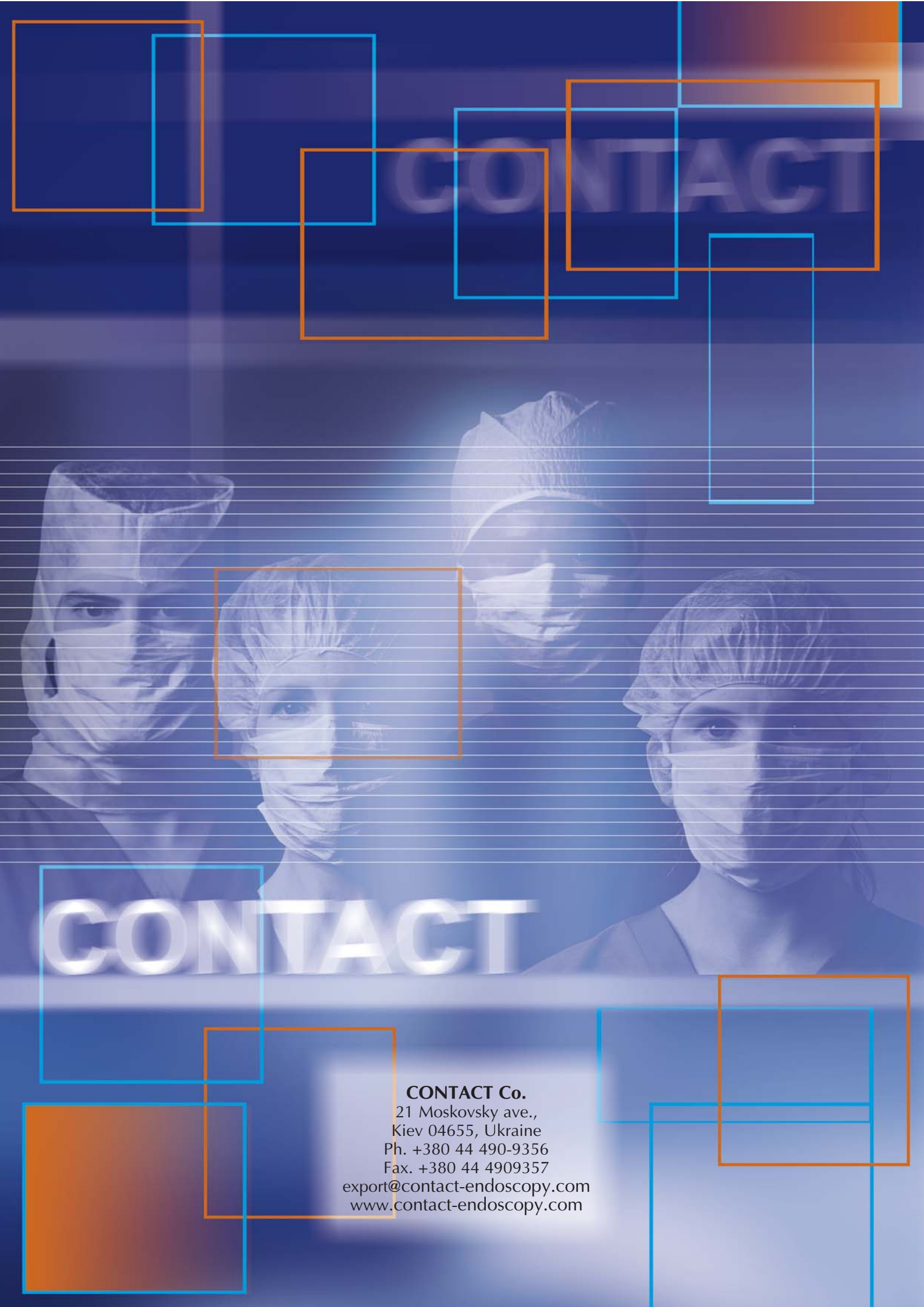
PRIMARY INPUT	SECONDARY INPUT											
	DVI 1	FIBER OPTIC	3G-SDI 1	DVI 2	3G-SDI2	RGB 2 (BNC) SOG 2	COMP. (BNC) SOG 1	S-VIDEO	VIDEO (BNC)	RGB 1 (D-SUB)	DP	HDMI
DVI 1	X	X	O	O	O	O	O	O	O	O	O	O
FIBER OPTIC	X	X	O	O	O	O	O	O	O	O	O	O
3G-SDI 1	O	O	X	O	X	O	O	X	X	O	O	O
DVI 2	O	O	O	X	O	O	O	O	O	O	O	X
3G-SDI 2	O	O	X	O	X	O	O	X	X	O	O	O
RGB 2 (BNC) SOG 2	O	O	O	O	O	X	X	O	O	X	O	O
COMP. (BNC) SOG 1	O	O	O	O	O	X	X	O	O	X	O	O
S-VIDEO	O	O	X	O	X	O	O	X	X	O	O	O
VIDEO (BNC)	O	O	X	O	X	O	O	X	X	O	O	O
RGB 1(D-SUB)	O	O	O	O	O	X	X	O	O	X	O	O
DP	O	O	O	O	O	O	O	O	O	O	X	O
HDMI	O	O	O	X	O	O	O	O	O	O	O	X

Connectivity Diagram



100x100 VESA standard





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